

# **PD45**

# HYDRAULIC POST DRIVER



# SAFETY, OPERATION AND MAINTENANCE USER MANUAL







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## **IMPORTANT**

To fill out a Product Warranty Recording form, and for information on your warranty, visit Stanleyhydraulic.com and select the Warranty tab.

(NOTE: The warranty recording form must be submitted to validate the warranty).

**SERVICING THE STANLEY HYDRAULIC POST DRIVER.** This manual contains safety, operation, and routine maintenance instructions. Stanley Hydraulic Tools recommends that servicing of hydraulic tools, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.



SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at the number listed on the back of this manual and ask for a Customer Service Representative.



# **SAFETY SYMBOLS**

Safety symbols and signal words, as shown below, are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, <u>will</u> result in <u>death or serious injury</u>.

This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, <u>could</u> result in <u>death or serious injury</u>.

This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, <u>could</u> result in <u>death or serious injury</u>.

This signal word indicates a potentially hazardous situation which, if not avoided, <u>may</u> result in <u>property damage</u>.

This signal word indicates a situation which, if not avoided, <u>will</u> result in <u>damage</u> to the equipment.

This signal word indicates a situation which, if not avoided, <u>may</u> result in <u>damage to the equipment</u>.



Always observe safety symbols. They are included for your safety and for the protection of the tool.

#### LOCAL SAFETY REGULATIONS

| Enter any local safety regulations here. nance personnel. | Keep these instructions in an area accessible to the operator and mainte- |
|---|---|
|   |   |
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|   |   |
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# **SAFETY PRECAUTIONS**

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the tool and hose.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided in this manual.

The PD45 Hydraulic Post Driver will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool and hoses before operation. Failure to do so could result in personal injury or equipment damage.







- Operator must start in a work area without bystanders. The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Establish a training program for all operators to ensure safe operations.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, head protection, and safety shoes at all times when operating the tool.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Do not operate this tool without first reading the Operation section of this manual.
- Do not install or remove this tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Never operate the tool if you cannot be sure that underground utilities are not present. Underground electrical utilities present an electrocution hazard. Underground gas utilities present an explosion hazard. Other underground utilities may present other hazards.
- Do not wear loose fitting clothing when operating the

- tool. Loose fitting clothing can get entangled with the tool and cause serious injury.
- Supply hoses must have a minimum working pressure rating of 2500 psi/175 bar.
- Be sure all hose connections are tight.
- The hydraulic circuit control valve must be in the OFF position when coupling or uncoupling the tool.
   Wipe all couplers clean before connecting. Failure to do so may result in damage to the quick couplers and cause overheating. Use only lint-free cloths.
- Do not operate the tool at oil temperatures above 140 °F/60 °C. Operation at higher oil temperatures can cause operator discomfort and may cause damage to the tool.
- Do not operate a damaged, improperly adjusted, or incompletely assembled tool.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Do not exceed the rated limits of the tool or use the tool for applications beyond its design capacity.
- Always keep critical tool markings, such as labels and warning stickers legible.
- Always replace parts with replacement parts recommended by Stanley Hydraulic Tools.
- Check fastener tightness often and before each use daily.
- Warning: Use of this tool on certain materials during demolition could generate dust potentially containing a variety of hazardous substances such as asbestos, silica or lead. Inhalation of dust containing these or other hazardous substances could result in serious injury, cancer or death. Protect yourself and those around you. Research and understand the materials you are cutting. Follow correct safety procedures and comply with all applicable national, state or provisional health and safety regulations relating to them, including, if appropriate arranging for the safe disposal of the materials by a qualified person.



# **TOOL STICKERS & TAGS**



15197 PD45 Name Tag

# DANGER

LOCATE UNDERGROUND SERVICES BEFORE USING THIS TOOL. PERSONAL INJURY OR DEATH MAY RESULT FROM CONTACT WITH OR DAMAGE TO UNDERGROUND SERVICES SUCH AS ELECTRICAL, GAS, OR FLAMMABLE LIQUID LINES.

BE AWARE OF OVERHEAD HAZARDS. CONTACT WITH ENERGIZED LINES MAY CAUSE SEVERE PERSONAL INJURY OR DEATH. CONTACT WITH OBSTRUCTIONS MAY MAKE HANDLING OF THE TOOL DIFFICULT AND LOSS OF CONTROL MAY CAUSE INJURY.

19693 Danger Sticker

#### NOTE:

THE INFORMATION LISTED ON THE STICKERS SHOWN. MUST BE LEGIBLE AT ALL TIMES.

REPLACE DECALS IF THEY BECOME WORN OR DAMAGED. REPLACEMENTS ARE AVAILABLE FROM YOUR LOCAL STANLEY DISTRIBUTOR.

The safety tag (P/N 15875) at right is attached to the tool when shipped from the factory. Read and understand the safety instructions listed on this tag before removal. We suggest you retain this tag and attach it to the tool when not in use.

#### DANGER

- FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.
- DEATH ON SERIOUS INJURY.

  BEFORE USING HOSE LABELED AND CERTIFIED AS NONCOMDUCTIVE ON OR NEAR ELECTRICLINES BE SURE THE 
  HOSE IS MAINTAINED AS NON-COMDUCTIVE THE HOSE 
  SHOULD BE REGULARLY TESTED FOR ELECTRIC CURRENT LEAKAGE IN ACCORDANCE WITH YOUR SAFETY 
  DEPARTMENT INSTRUCTIONS.
- A HYDRAULIC LEAK OR BURST MAY CAUSE OIL INJECTION INTO THE BODY OR CAUSE OTHER SEVERE PERSONAL INJURY.
- Do NOT EXCEED SPECIFIED FLOW AND PRESSURE FOR THIS TOOL. EXCESS FLOW OR PRESSURE MAY CAUSE A LEAK OR BURST.
- DO NOT EXCEED RATED WORKING PRESSURE OF HYDRAULIC HOSE USED WITH THIS TOOL. EXCESS PRESSURE MAY CAUSE A LEAK OR BURST.
- CHECK TOOL HOSE COUPLERS AND CONNECTORS DAILY FOR LEAKS. **DO NOT** FEEL FOR LEAKS WITH YOUR HANDS. CONTACT WITH A LEAK MAY RESULT IN SEVERE PERSONAL INJURY.

#### IMPORTANT

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE **OPERATION MANUAL.** 

TAG TO BE REMOVED ONLY BY TOOL OPERATOR

SEE OTHER SIDE

#### DANGER

- D. DO NOT LIFT OR CARRY TOOL BY THE HOSES. DO NOT ABUSE HOSE. DO NOT USE KINKED, TORN OR DAMAGED HOSE.

  MAKE SURE HYDRAULD HOSES ARE PROPERLY CONMECTED TO THE TOOL BEFORE PRESSURING SYSTEM. SYSTEM PRESSURE HOSE MUST ALWAYS BE CONNECTED TO TOOL "IN" PORT. SYSTEM RETURN HOSE MUST ALWAYS BE CONNECTED TO TOOL "OUT" PORT. SYSTEM METURN HOSE MUST ALWAYS BE CONNECTED TO TOOL "OUT" PORT. REVERSING CONNECTIONS MAY CAUSE REVERSE PERSONAL INJURY.
- PERSONAL INJURY.

  DO NOT CONNECT OPEN-CENTER TOOLS TO CLOSED-CENTER HYDRAULIC SYSTEMS. THIS MAY RESULT IN LOSS OF OTHER HYDRAULIC FUNCTIONS POWERED BY THE SAME SYSTEM AND/OR SEVERE PERSONAL INJURY.
- BYSTANDERS MAY BE INJURED IN YOUR WORK AREA.
  KEEP BYSTANDERS CLEAR OF YOUR WORK AREA.
- WEAR HEARING, EYE, FOOT, HAND AND HEAD PROTECTION.
- TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE, ALL TOOL REPAIR MAINTENANCE AND SERVICE MUST ONLY BE PERFORMED BY AUTHORIZED AND PROPERLY TRAINED PERSONNEL.

#### IMPORTANT

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE **OPERATION MANUAL.** 

TAG TO BE REMOVED ONLY BY TOOL OPERATOR

SEE OTHER SIDE

SAFETY TAG P/N 15875 (Shown smaller then actual size)



# **HOSE TYPES**

The rated working pressure of the hydraulic hose must be equal to or higher than the relief valve setting on the hydraulic system. There are three types of hydraulic hose that meet this requirement and are authorized for use with Stanley Hydraulic Tools. They are:

**Certified non-conductive** — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. Hose labeled **certified non-conductive** is the only hose authorized for use near electrical conductors.

**Wire-braided** (conductive) — constructed of synthetic rubber inner tube, single or double wire braid reinforcement, and weather resistant synthetic rubber cover. *This hose is conductive and must never be used near electrical conductors.* 

**Fabric-braided** (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is not certified non-conductive* and must never be used near electrical conductors.

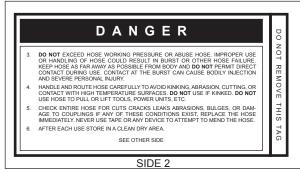
### **HOSE SAFETY TAGS**

To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley Hydraulic Tools. DO NOT REMOVE THESE TAGS.

If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley Distributor.

#### THE TAG SHOWN BELOW IS ATTACHED TO "CERTIFIED NON-CONDUCTIVE" HOSE





(Shown smaller than actual size)

#### THE TAG SHOWN BELOW IS ATTACHED TO "CONDUCTIVE" HOSE.





(Shown smaller than actual size)



# **HOSE RECOMMENDATIONS**

# Tool to Hydraulic Circuit Hose Recommendations

The chart to the right shows recommended minimum hose diameters for various hose lengths based on gallons per minute (gpm)/ liters per minute (lpm). These recommendations are intended to keep return line pressure (back pressure) to a minimum acceptable level to ensure maximum tool performance.

This chart is intended to be used for hydraulic tool applications only based on Stanley Hydraulic Tools tool operating requirements and should not be used for any other applications. All hydraulic hose must have at least a rated minimum working pressure equal to the maxi-

mum hydraulic system relief valve setting. All hydraulic hose must meet or exceed

All hydraulic hose must meet or exceed specifications as set forth by SAE J517.

| Oil     | Oil Flow | Hose L         | Hose Lengths   | Inside [    | Inside Diameter | USE            | Min. Workin | Min. Working Pressure |
|---------|----------|----------------|--|-------------|-----------------|----------------|-------------|-----------------------|
| GPM     | LPM      | FEET           | METERS   | INCH        | MM              | (Press/Return) | PSI         | BAR                   |
|         |          | Certified No   | Certified Non-Conductive Hose - Fiber Braid - for Utility Bucket Trucks            | Hose - Fibe | r Braid - for   | Utility Bucket | Trucks      |                       |
| 4-9     | 15-34    | up to 10       | up to 3  | 3/8         | 10              | Both           | 2250        | 155                   |
|         | Conducti | ve Hose - Wire | Conductive Hose - Wire Braid or Fiber Braid -DO NOT USE NEAR ELECTRICAL CONDUCTORS | Braid -DO   | NOT USE NE      | AR ELECTRIC    | AL CONDUCT  | ORS                   |
| 4-6     | 15-23    | up to 25       | up to 7.5  | 8/8         | 10              | Both           | 2500        | 175                   |
| 4-6     | 15-23    | 26-100         | 7.5-30   | 1/2         | 13              | Both           | 2500        | 175                   |
| 5-10.5  | 19-40    | up to 50       | up to 15   | 1/2         | 13              | Both           | 2500        | 175                   |
| 5-10.5  | 19-40    | 51-100         | 15-30  | 2/8         | 16              | Both           | 2500        | 175                   |
| 7.<br>C | 6        | 000            | 000  | 2/8         | 16              | Pressure       | 2500        | 175                   |
| c:01-c  | 9-40     | 000-001        | 08-00  | 3/4         | 19              | Return         | 2500        | 175                   |
| 10-13   | 38-49    | up to 50       | up to 15   | 2/8         | 16              | Both           | 2500        | 175                   |
| 2       | 00       | 7              | 7<br>00  | 8/9         | 16              | Pressure       | 2500        | 175                   |
| 2-0-    | 94-00    | 001-10         | 06-61  | 3/4         | 19              | Return         | 2500        | 175                   |
| 2 7 0 7 | 20 40    | 000            | 30 60  | 3/4         | 19              | Pressure       | 2500        | 175                   |
| 2 -0    | 00-49    | 007-001        | 00-00  | ٦           | 25.4            | Return         | 2500        | 175                   |
| 2       | 0        |                | 0 - 7 - 11   | 8/9         | 16              | Pressure       | 2500        | 175                   |
| 91-51   | 49-60    | cz 01 dn       | 8 01 dn  | 3/4         | 19              | Return         | 2500        | 175                   |
| 707     | 40.60    | 700            | 0  | 3/4         | 19              | Pressure       | 2500        | 175                   |
| 0 -0    | 49-00    | 70-100         | 00   | 1           | 25.4            | Return         | 2500        | 175                   |

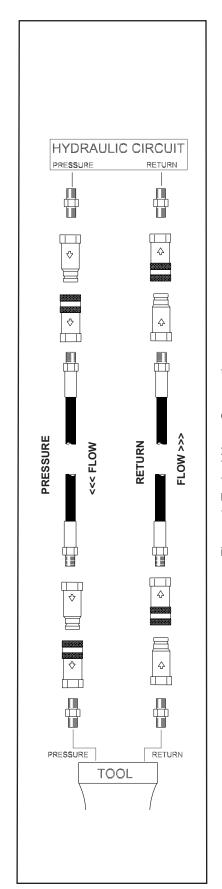


Figure 1. Typical Hose Connections

# **HTMA/EHTMA REQUIREMENTS**

#### HTMA / EHTMA REQUIREMENTS

| AMTH   |                                   | TOOL TY                           | /PE                               |                                   |
|--|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| HYDRAULIC SYSTEM REQUIREMENTS  | TYPE I                            | TYPE II                           | TYPE RR                           | TYPE III                          |
| Flow Range   | 4-6 gpm                           | 7-9 gpm                           | 9-10.5 gpm                        | 11-13 gpm                         |
|  | (15-23 lpm)                       | (26-34 lpm)                       | (34-40 lpm)                       | (42-49 lpm)                       |
| Nominal Operating Pressure   | 1500 psi                          | 1500 psi                          | 1500 psi                          | 1500 psi                          |
| (at the power supply outlet)   | (103 bar)                         | (103 bar)                         | (103 bar)                         | (103 bar)                         |
| System relief valve setting (at the power supply outlet)   | 2100-2250 psi                     | 2100-2250 psi                     | 2200-2300 psi                     | 2100-2250 psi                     |
|  | (145-155 bar)                     | (145-155 bar)                     | (152-159 bar)                     | (145-155 bar)                     |
| Maximum back pressure (at tool end of the return hose)   | 250 psi                           | 250 psi                           | 250 psi                           | 250 psi                           |
|  | (17 bar)                          | (17 bar)                          | (17 bar)                          | (17 bar)                          |
| Measured at a max. fluid viscosity of: (at min. operating temperature)   | 400 ssu*                          | 400 ssu*                          | 400 ssu*                          | 400 ssu*                          |
|  | (82 centistokes)                  | (82 centistokes)                  | (82 centistokes)                  | (82 centistokes                   |
| Temperature: Sufficient heat rejection capacity to limit max. fluid temperature to: (at max. expected ambient temperature)   | 140° F                            | 140° F                            | 140° F                            | 140° F                            |
|  | (60° C)                           | (60° C)                           | (60° C)                           | (60° C)                           |
| Min. cooling capacity at a temperature difference of between ambient and fluid temps NOTE:  Do not operate the tool at oil temperatures above 140° F discomfort at the tool. | 3 hp                              | 5 hp                              | 6 hp                              | 7 hp                              |
|  | (2.24 kW)                         | (3.73 kW)                         | (5.22 kW)                         | (4.47 kW)                         |
|  | 40° F                             | 40° F                             | 40° F                             | 40° F                             |
|  | (22° C)                           | (22° C)                           | (22° C)                           | (22° C)                           |
|  | (60° C). Operation at             | higher temperatu                  | res can cause ope                 | erator                            |
| Filter<br>Min. full-flow filtration<br>Sized for flow of at least:<br>(For cold temp. startup and max.<br>dirt-holding capacity)   | 25 microns<br>30 gpm<br>(114 lpm) |
| Hydraulic fluid Petroleum based (premium grade, anti-wear, non-conductive) Viscosity (at min. and max. operating temps)  | 100-400 ssu*<br>(2                | 100-400 ssu*<br>0-82 centistokes) | 100-400 ssu*                      | 100-400 ssu*                      |

When choosing hydraulic fluid, the expected oil temperature extremes that will be experienced in service determine the most suitable temperature viscosity characteristics. Hydraulic fluids with a viscosity index over 140 will meet the requirements over a wide range of operating temperatures.

\*SSU = Saybolt Seconds Universal

#### **CLASSIFICATION EHTMA HYDRAULIC SYSTEM REQUIREMENTS** 30Lpm at 138b EHTMA CATEGOR 3.5-4.3 gpm Flow Range 4.7-5.8 gpm 7.1-8.7 gpm 9.5-11.6 gpm 11.8-14.5 gpm (45-55 lpm) (13.5-16.5 lpm) (18-22 lpm) (27-33 lpm) (36-44 lpm) Nominal Operating Pressure 1870 psi 1500 psi 1500 psi 1500 psi 1500 psi (at the power supply outlet) (103 bar) (103 bar) (103 bar) (103 bar) (129 bar) System relief valve setting 2495 psi 2000 psi 2000 psi 2000 psi 2000 psi (at the power supply outlet) (172 bar) (138 bar) (138 bar) (138 bar) (138 bar)





# **OPERATION**

# PRE-OPERATION PROCEDURES

# CHECK THE POWER SOURCE

- 1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7–9 gpm/26–34 lpm at 2000 psi/140 bar.
- 2. Make certain the hydraulic power source is equipped with a relief valve set to open at 2100–2250 psi/140 bar.

#### **INSTALLING ADAPTERS**

- The post hammer is designed to drive No. 1 through No. 4 sign post, 2-1/2 inch square and up to 2-5/8 inch diameter round post without requiring adapters. If you are driving one of these types of post, orient the post into the tightest fit in the post driver foot.
- 2. If you are driving smaller square or round post, insert the adapter to the post driver foot using two ½-hex head capscrews.

#### **CONNECTING HOSES**

- 1. Wipe all hose couplers with a clean, lint-free cloth before making connections.
- Connect the hoses from the hydraulic power source to the tool fittings or quick disconnects. It is a good practice to connect return hoses first and disconnect them last to minimize or avoid trapped pressure within the tool.
- 3. If hose couplers are used, observe the arrow on the coupler to ensure that the flow is in the proper direction. The female coupler on the tool hose is the inlet (pressure) coupler.
- 4. Move the hydraulic power source On/Off control valve to the **ON** position to operate the tool.

#### NOTE:

If uncoupled hoses are left in the sun, pressure increase inside the hoses may make them difficult to connect. When possible, connect the free ends of the operating hoses together.

#### **TOOL OPERATION**

- 1. Observe all safety precautions.
- Install the appropriate adapter as required.
- 3. Place the post driver foot firmly on the surface to be driven.
- 4. Press the lever assembly on handle to start the post driver.

#### NOTE:

On Remote ON/OFF Valve Models Place the post driver on/off control valve in The ON position to start the post driver.

#### NOTE:

Adequate down pressure is very important.

5. When the post is fully set in the ground, release the lever assembly on handle.

#### **COLD WEATHER OPERATION**

If the post hammer is to be used during cold weather, preheat the hydraulic fluid at low engine speed. When using the normally recommended fluid, fluid temperature should be at or above 50°F/10°C (400 ssu/82 centistrokes) before use.

Damage to the hydraulic system or post driver can result from use with fluid that is too viscous or thick.



# **CHARGING THE ACCUMULATOR**

#### **ACCUMULATOR TESTING PROCEDURE**

To check or charge the accumulator the following equipment is required:

- Accumulator Tester (Part Number 02835).
- Charging Kit Assembly (P/N 31254); (includes a regulator, hose and fittings).
- NITROGEN bottle with an 800 psi/56 bar minimum charge.
- Remove the charging valve plug from the post driver.
- Holding the chuck end of Stanley tester (P/N 02835), turn the gauge fully counter-clockwise to ensure the stem inside the chuck is completely retracted.
- Thread the tester onto the charging valve of the tool accumulator (do not advance the gauge-end into the chuck end; turn as a unit). Seat the chuck on the accumulator charging valve and hand tighten only.
- 4. Advance the valve stem by turning the gauge-end clockwise until pressure is read on the gauge (charging pressure should be 500–700 psi/34–38 bar).
- 5. If pressure is OK unscrew the gauge-end from the chuck to retract the stem, then unscrew the entire tester assembly from the tool accumulator charging valve. If pressure is low, charge the accumulator as described in the following section.
- 6. Install the charging valve cap (or plug).

#### ACCUMULATOR CHARGING PROCEDURE

- 1. Perform Steps 1 through 4 of the Accumulator Testing Procedure above.
- Connect the chuck of the charging assembly to the charging valve on the accumulator tester or, if preferred, remove the tester from the tool charging valve and connect the charging assembly chuck directly to the tool charging valve.
- 3. Adjust the regulator to the charging pressure of 600 psi/42 bar.

#### NOTE:

It may be necessary to set the regulator at 650-700 psi/45-48 bar to overcome any pressure drop through the charging system.

- 4. Open the valve on the charging assembly hose.
- When the accumulator is fully charged close the valve on the charging assembly hose and remove the charging assembly chuck from the accumulator tester of tool charging valve.
- If the accumulator tester has been used, be sure to turn the gauge-end fully counterclockwise before removing the tester from the charging valve of the tool.
- 7. Replace the O-ring plug.

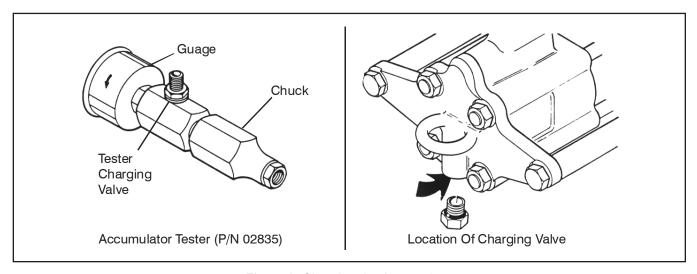


Figure 2. Charging the Accumulator



# **TOOL PROTECTION & CARE**

# **NOTICE**

In addition to the Safety Precautions found in this manual, observe the following for equipment protection and care.

- Make sure all couplers are wiped clean before connection.
- The hydraulic circuit control valve must be in the OFF position when coupling or uncoupling hydraulic tools. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the IN port. The circuit RETURN hose (with female quick disconnect) is connected to the opposite port. Do not reverse circuit flow. This can cause damage to internal seals.
- Always replace hoses, couplings and other parts with replacement parts recommended by Stanley Hydraulic Tools. Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.
- Do not exceed the rated flow (see Specifications) in this manual for correct flow rate and model number. Rapid failure of the internal seals may result.

- Always keep critical tool markings, such as warning stickers and tags legible.
- Do not use the tool for applications it was not designed for.
- Tool repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.
- Do not use the tool for applications for which it was not intended.



# **TROUBLESHOOTING**

If symptoms of poor performance develop, the following chart can be used as a guide to correct the problem.

When diagnosing faults in operation of the tool, always make sure the hydraulic power source is supplying the correct hydraulic flow and pressure as listed in the table. Use a flowmeter know to be accurate. Check the flow with the hydraulic fluid temperature at least 80  $^{\circ}$ F/27  $^{\circ}$ C.

| PROBLEM                        | CAUSE   | SOLUTION  |
|--------------------------------|---|---|
| Tool does not run.             | Power unit not functioning.   | Check power source for proper flow and pressure (7–9 gpm/26–34 lpm, 2000 psi/140 bar).  |
|                                | Couplers or hoses blocked.  | Remove restriction.   |
|                                | Pressure and return line hoses reversed at ports.                   | Be sure hoses are connected to their proper ports.  |
|                                | Mechanical failure of piston or automatic valve.                    | Disassemble post driver and inspect for damaged parts.  |
| Tool does not hit effectively. | Low accumulator charge (pressure hose will pulse more than normal). | Recharge accumulator. Replace diaphragm if charge loss continues  |
|                                | Power unit not functioning.   | Check power unit for proper flow and pressure (7–9 gpm/26–34 lpm, 2000 psi/140 bar).  |
|                                | Couplers or hoses blocked.  | Remove restriction.   |
|                                | Fluid too hot (above 140 °F/60 °C).                                 | Provide cooler to maintain proper oil temperature (130 °F/55 °C maximum).   |
|                                | The anvil is not sliding freely in the post driver foot.            | Remove, clean, lubricate and replace anvil as required.   |
| Tool operates slowly.          | Low gpm supply from power unit.                                     | Check power source for proper flow (7–9 gpm/26-64 lpm).   |
|                                | High back-pressure.   | Check hydraulic system for excessive back-pressure (over 250 psi/17 bar).   |
|                                | Couplers or hoses blocked.  | Remove restriction.   |
|                                | Orifice blocked.  | Remove restriction.   |
|                                | Fluid too hot (above 140 °F/60 °C) or too cold (below 60 °F/16 °C). | Check power source for proper fluid temperature. Bypass cooler to warm fluid up or provide cooler to maintain proper temperature.   |
|                                | Relief valve set too low.   | Adjust relief valve to 2100–2250 psi/145–155 bar.   |
|                                | The anvil is not sliding freely in the post driver foot.            | Remove, clean, lubricate and replace as required.   |
| Tool gets hot.                 | Hot fluid going through tool.                                       | Check power unit. Be sure flow rate is not too high causing part of the fluid to go through the relief valve. Provide cooler to maintain proper fluid temperature (140 °F/60 °C max). |
|                                |   | Check relief valve setting.   |
|                                |   | Eliminate flow control devices.   |
| Oil leakage on post.           | Lower piston seal failure.  | Replace seal.   |

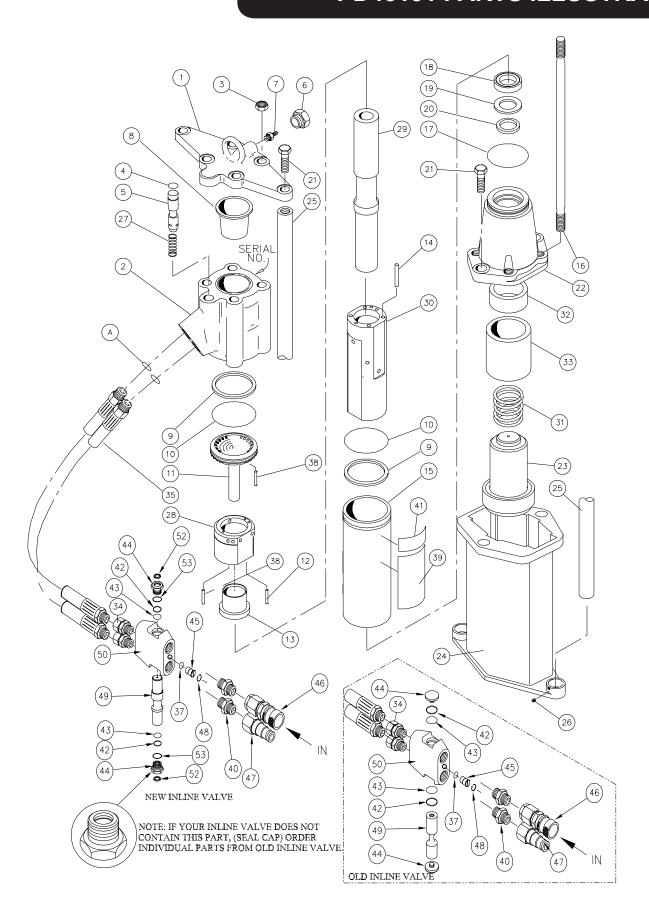


# **SPECIFICATIONS**

| Weight (Standard)              | 65 lbs/29.5 kg                     |
|--------------------------------|------------------------------------|
| Weight (Extended anvil)        | 71 lbs/32 kg.                      |
| Pressure Range                 | 2000 psi/140 bar                   |
| Flow Range                     | 7-9 gpm/26-34 lmp                  |
| Optimum Flow                   | 8 gpm/30 lpm                       |
| HTMA Class II                  | 7-9 gpm @ 2000 psi                 |
| Couplers                       | HTMA Flush Face                    |
| Per NFPA T3.20.15/ISO 16028    |                                    |
| Connect Size                   | 3/8 female pipe                    |
| Length                         |                                    |
| Width (Across Handles)         | 10-1/8 in./25.7 cm                 |
| System Type                    | open center                        |
| Port Size                      | SAE 8 O-ring                       |
| Hose Whips                     | Yes                                |
| Capacity                       | #2, #3 and #4 lb/ft                |
|                                | U Channel Sign Post                |
|                                | #3 and #4 Strong Back (Heavy Duty) |
|                                | U Channel Sign Post                |
|                                | #1 Delineator Post                 |
|                                | 2-1/2 in./63.5 mm Square Post      |
|                                | 2-5/8 in./67 mm Round Post         |
| ACCESSORIES (SEE PAGE 18)      |                                    |
| ` '                            |                                    |
| Adapter, 1-3/4 in. Square Post |                                    |
| Adapter, 2 in. Round Pipe      |                                    |
| Adapter, 2-1/4 in. Square Post |                                    |
| Adapter, 2 in. Square Post     | 15187                              |
|                                |                                    |
| SERVICE TOOLS                  |                                    |
| Tamper Sleeve Tool             | 01120                              |
| O-ring Tool Kit                |                                    |
| Flow Sleeve Removal Tube       |                                    |
| Flow Sleeve Removal Tool       |                                    |
| Accumulator Cylinder Puller    |                                    |



# PD45131 PARTS ILLUSTRATION





# PD45131 PARTS LIST

|      | DADT        |     |                                 |
|------|-------------|-----|---------------------------------|
| ITEM | PART<br>NO. | QTY | DESCRIPTION                     |
| 1    | 15190       | 1   | TOP PLATE                       |
| 2    | 11588       | 1   | ACCUMULATOR VALVE BLOCK         |
| 3    | 04374       | 4   | LOCK NUT 5/8-18                 |
| 4    | 00293       | 1   | O-RING                          |
| 5    | 15188       | 1   | VALVE SPOOL                     |
| 6    | 07493       | 1   | MALE O-RING PLUG                |
| 7    | 20499       | 1   | CHARGE VALVE                    |
| 8    | 07479       | 1   | ACCUMULATOR DIAPHRAGM           |
| 9    | 04381       | 2   | BACK-UP RING                    |
| 10   | 04379       | 2   | O-RING                          |
| 11   | 04378       | 1   | PORTING BLOCK                   |
| 12   | 04571       | 2   | PUSH PIN                        |
| 13   | 04382       | 1   | AUTOMATIC VALVE                 |
| 14   | 04605       | 4   | PUSH PIN                        |
| 15   | 04383       | 1   | FLOW SLEEVE TUBE                |
| 16   | 12139       | 4   | SIDE ROD                        |
| 17   | 02022       | 1   | O-RING                          |
| 18   | 04386       | 1   | CUP SEAL                        |
| 19   | 04780       | 1   | WASHER                          |
| 20   | 04387       | 1   | ROD WIPER                       |
| 21   | 370351      | 4   | CAPSCREW                        |
| 22   | 15191       | 1   | ADAPTER BLOCK                   |
| 23   | 15189       | 1   | ANVIL                           |
| 24   | 15170       | 1   | POST DRIVER FOOT                |
| 25   | 15182       | 2   | HANDLE BAR                      |
| 26   | 15194       | 2   | SET SCREW, 3/8-16 × 1/2 HSH     |
| 27   | 04058       | 1   | SPRING                          |
| 28   | 07480       | 1   | AUTOMATIC VALVE BODY            |
| 29   | 07481       | 1   | PISTON                          |
| 30   | 07485       | 1   | FLOW SLEEVE                     |
| 31   | 12146       | 1   | SPRING                          |
| 32   | 12143       | 1   | UPPER ANVIL STOP                |
| 33   | 15183       | 1   | ANVIL BUSHING                   |
| 34   | 00856       | 2   | 1/2 INCH SAE TO 1/2 INCH TUBE   |
| 35   | 66722       | 2   | HOSE ASSY (PD45131 & PD4513103) |
|      | 35784       | 2   | HOSE ASSY (PD45131J)            |
| 36   | _           | _   | NO ITEM                         |
| 37   | 00026       | 1   | O-RING                          |
| 38   | 02900       | 2   | ROLL PIN                        |
| 39   | 15197       | 1   | PD45 NAME TAG                   |
| 40   | 00936       | 2   | ADAPTER                         |
| 41   | 19693       | 1   | DANGER STICKER                  |
| 42   | 13568       | 2   | BACK UP RING (OLD INLINE VALVE) |
|      | 07224       | 2   | BACK UP RING (NEW INLINE VALVE) |
| 43   | 13567       | 2   | O-RING (OLD INLINE VALVE)       |

| ITEM | PART<br>NO. | QTY | DESCRIPTION                            |
|------|-------------|-----|--|
|      | 07626       | 2   | O-RING (NEW INLINE VALVE)              |
| 44   | 01003       | 2   | ON-OFF VALVE BUTTON (OLD INLINE VALVE) |
|      | 56749       | 2   | SEAL CAP (NEW INLINE VALVE)            |
| 45   | 10536       | 1   | SELECTOR SCREW                         |
| 46   | 03972       | 1   | FEMALE COUPLER 3/8 NPT                 |
| 47   | 03973       | 1   | MALE COUPLER 3/8 NPT                   |
| 48   | 16070       | 1   | RETAINING RING                         |
| 49   | 38631       | 1   | VALVE SPOOL (OLD INLINE VALVE)         |
|      | 67008       | 1   | VALVE SPOOL (NEW INLINE VALVE)         |
| 50   | 38629       | 1   | VALVE BODY ASSY (OLD INLINE VALVE)     |
|      | 67007       | 1   | VALVE BODY ASSY (NEW INLINE VALVE)     |
| 51   | 11499       | 2   | ADAPTOR 1/2 INCH SAE-3/8 NPTF          |
| 52   | 56747       | 2   | SEAL WIPER                             |
| 53   | 01604       | 2   | O-RING                                 |
|      |             |     |  |
|      | 04595       |     | SEAL KIT                               |

For Post Adaptors (See Page 18).

## **Read Before Ordering Inline Valve Parts:**

Inline Valve Assembly (OC-CC) - 72264

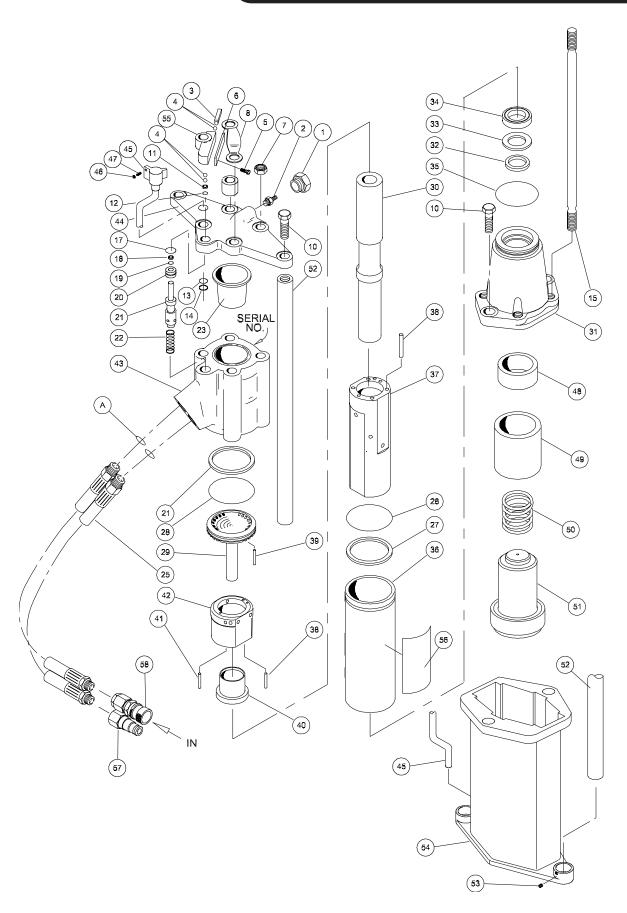
Includes Items (37, 42 thur 45, thru 50, 52, and 53)

The inline valve changed around June 2011. To determine if you have the old or new inline valve, see parts illustration.

NOTE: Individual parts are still available for the older inline valve but if replacing the entire inline valve assy, you must order the new inline valve assy P/N-72264.



# PD45132 PARTS ILLUSTRATION

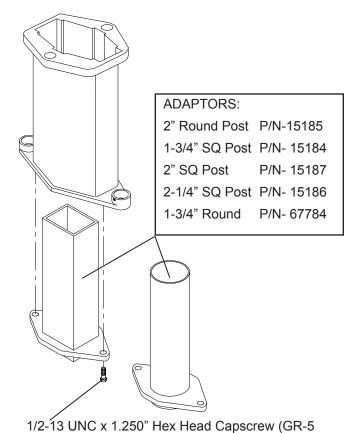




# PD45132 PARTS LIST

|      | 1           | 1   |                              |
|------|-------------|-----|------------------------------|
| ITEM | PART<br>NO. | QTY | DESCRIPTION                  |
| 1    | 07493       | 1   | O-RING PLUG-MALE             |
| 2    | 20499       | 1   | CHARGE VALVE                 |
| 3    | 20387       | 1   | PLUNGER                      |
| 4    | 12100       | 4   | STEEL BALL 3/8 DIA.          |
| 5    | 00899       | 2   | HHCS 1/4-20 UNC × 1/2 GR5    |
| 6    | 20386       | 1   | COVER PLATE                  |
| 7    | 04374       | 4   | LOCK NUT 5/8-18              |
| 8    | 20390       | 1   | LIFT STRAP                   |
| 9    | 20384       | 1   | SPACER                       |
| 10   | 370351      | 4   | HHCS 5/8-11 UNC × 1-3/4      |
| 11   | 20385       | 1   | PILOT RING                   |
| 12   | 02003       | 1   | O-RING                       |
| 13   | 20398       | 1   | SUPPORT WASHER 3/4           |
| 14   | 08016       | 1   | RETAINING RING 3/4 EXT       |
| 15   | 12139       | 2   | SIDE ROD                     |
| 16   | 08087       | 2   | SIDE ROD                     |
| 17   | 00293       | 1   | O-RING                       |
| 18   | 04056       | 1   | ROD WIPER 5/16 × 9/16        |
| 19   | 01362       | 1   | O-RING                       |
| 20   | 04057       | 1   | BUSHING                      |
| 21   | 04077       | 1   | VALVE SPOOL OC               |
| 22   | 04058       | 1   | SPRING                       |
| 23   | 07479       | 1   | ACCUMULATOR DIAPHRAGM        |
| 24   | _           | _   | NO ITEM                      |
| 25   | 09546       | 2   | PIGTAIL HOSE ASSY-18 IN. OAL |
| 26   | _           | _   | NO ITEM                      |
| 27   | 04381       | 2   | BACK-UP RING                 |
| 28   | 04379       | 2   | O-RING                       |
| 29   | 04378       | 1   | PORTING BLOCK                |
| 30   | 07481       | 1   | PISTON                       |
| 31   | 15191       | 1   | ADAPTOR BLOCK                |
| 32   | 04387       | 1   | ROD WIPER                    |
| 33   | 04780       | 1   | BACK-UP WASHER               |
| 34   | 04386       | 1   | CUP SEAL                     |
| 35   | 02022       | 1   | O-RING                       |
| 36   | 04383       | 1   | FLOW SLEEVE TUBE             |
| 37   | 07485       | 1   | FLOW SLEEVE                  |
| 38   | 04605       | 4   | PUSH PIN                     |
| 39   | 02900       | 2   | ROLL PIN                     |
| 40   | 04382       | 1   | AUTOMATIC VALVE              |
| 41   | 04571       | 2   | PUSH PIN                     |
| 42   | 07480       | 1   | AUTOMATIC VALVE BODY         |
| 43   | 11588       | 1   | ACCUMULATOR VALVE BLOCK      |
| 44   | 20396       | 1   | VALVE TOP PLATE              |
| 45   | 20392       | 1   | TRIGGER ASSY                 |

| ITEM | PART<br>NO. | QTY | DESCRIPTION            |
|------|-------------|-----|------------------------|
| 46   | 00038       | 1   | NUT 1/4-20 PLAIN       |
| 47   | 20399       | 1   | OVAL PT SET SCREW 1/4  |
| 48   | 12143       | 1   | UPPER ANVIL STOP       |
| 49   | 15183       | 1   | ANVIL BUSHING          |
| 50   | 12146       | 1   | SPRING                 |
| 51   | 15189       | 1   | ANVIL                  |
| 52   | 15182       | 2   | HANDLE BAR             |
| 53   | 15194       | 2   | SET SCREW              |
| 54   | 15170       | 1   | POST DRIVER FOOT       |
| 55   | 20388       | 1   | VALVE ACTUATOR HOUSING |
| 56   | 15197       | 1   | PD45 NAME TAG          |
| 57   | 03973       | 1   | MALE COUPLER           |
| 58   | 03972       | 1   | FEMALE COUPLER         |
|      |             |     |                        |
|      | 04595       | 1   | SEAL KIT               |



Minimum)
P/N- 04661
Clean ID/OD of threads,
apply 242 Loctite or equivalent, torque to 50 ft-lb.





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## **IMPORTANT**

To fill out a Product Warranty Recording form, and for information on your warranty, visit Stanleyhydraulic.com and select the Warranty tab.

(NOTE: The warranty recording form must be submitted to validate the warranty).